

de Gucena 2018-01875

Feature Activity 02 Documentation

Getting setup

```
C:\Users\Eliezer Jasper\Documents\GitHub\ME8_Containerization_and_Docker\2-changing_images>docker images
```

| REPOSITORY | TAG | IMAGE ID | CREATED | SIZE |
|------------|-------|--------------|-------------|-------|
| ubuntu | 16.04 | aefd7f02ae24 | 3 weeks ago | 134MB |

Modifying an image

```
C:\Users\Eliezer Jasper\Documents\GitHub\ME8_Containerization_and_Docker\2-changing_images>docker run -it ubuntu:16.04 /bin/bash
root@e6f9fe630c68:/# ping google.com
bash: ping: command not found
root@e6f9fe630c68:/# apt-get update
Get:1 http://security.ubuntu.com/ubuntu xenial-security InRelease [109 kB]
Get:2 http://archive.ubuntu.com/ubuntu xenial InRelease [247 kB]
Get:3 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [2051 kB]
Get:4 http://archive.ubuntu.com/ubuntu xenial-updates InRelease [109 kB]
Get:5 http://archive.ubuntu.com/ubuntu xenial-backports InRelease [107 kB]
Get:6 http://archive.ubuntu.com/ubuntu xenial/main amd64 Packages [1558 kB]
Get:7 http://security.ubuntu.com/ubuntu xenial-security/restricted amd64 Packages [15.9 kB]
Get:8 http://security.ubuntu.com/ubuntu xenial-security/universe amd64 Packages [984 kB]
Get:9 http://archive.ubuntu.com/ubuntu xenial/restricted amd64 Packages [14.1 kB]
Get:10 http://archive.ubuntu.com/ubuntu xenial/universe amd64 Packages [9827 kB]
Get:11 http://security.ubuntu.com/ubuntu xenial-security/multiverse amd64 Packages [8820 B]
Get:12 http://archive.ubuntu.com/ubuntu xenial/multiverse amd64 Packages [176 kB]
Get:13 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 Packages [2559 kB]
Get:14 http://archive.ubuntu.com/ubuntu xenial-updates/restricted amd64 Packages [16.4 kB]
Get:15 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages [1544 kB]
Get:16 http://archive.ubuntu.com/ubuntu xenial-updates/multiverse amd64 Packages [26.2 kB]
Get:17 http://archive.ubuntu.com/ubuntu xenial-backports/main amd64 Packages [10.9 kB]
Get:18 http://archive.ubuntu.com/ubuntu xenial-backports/universe amd64 Packages [12.7 kB]
Fetched 19.4 MB in 1min 9s (279 kB/s)
Reading package lists... Done
```

```
root@e6f9fe630c68:/# apt-get install iputils-ping
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libffi6 libgmp10 libgnutls-openssl27 libgnutls30 libhogweed4 libidn11 libnettle6 libp11-kit0 libtasn1-6
Suggested packages:
  gnutls-bin
The following NEW packages will be installed:
  iputils-ping libffi6 libgmp10 libgnutls-openssl27 libgnutls30 libhogweed4 libidn11 libnettle6 libp11-kit0 libtasn1-6
0 upgraded, 10 newly installed, 0 to remove and 6 not upgraded.
Need to get 1307 kB of archives.
After this operation, 3781 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://archive.ubuntu.com/ubuntu xenial/main amd64 libgmp10 amd64 2:6.1.0+dfsg-2 [240 kB]
Get:2 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libnettle6 amd64 3.2-1ubuntu0.16.04.2 [93.7 kB]
Get:3 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libhogweed4 amd64 3.2-1ubuntu0.16.04.2 [136 kB]
Get:4 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libidn11 amd64 1.32-3ubuntu1.2 [46.5 kB]
Get:5 http://archive.ubuntu.com/ubuntu xenial/main amd64 libffi6 amd64 3.2.1-4 [17.8 kB]
Get:6 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libp11-kit0 amd64 0.23.2-5~ubuntu16.04.2 [107 kB]
Get:7 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libtasn1-6 amd64 4.7-3ubuntu0.16.04.3 [43.5 kB]
Get:8 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libgnutls30 amd64 3.4.10-4ubuntu1.8 [548 kB]
Get:9 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libgnutls-openssl27 amd64 3.4.10-4ubuntu1.8 [21.9 kB]
Get:10 http://archive.ubuntu.com/ubuntu xenial/main amd64 iputils-ping amd64 3:20121221-5ubuntu2 [52.7 kB]
Fetched 1307 kB in 6s (196 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package libgmp10:amd64.
(Reading database ... 4780 files and directories currently installed.)
Preparing to unpack .../libgmp10_2%3a6.1.0+dfsg-2_amd64.deb ...
Unpacking libgmp10:amd64 (2:6.1.0+dfsg-2) ...
Selecting previously unselected package libnettle6:amd64.
Preparing to unpack .../libnettle6_3.2-1ubuntu0.16.04.2_amd64.deb ...
Unpacking libnettle6:amd64 (3.2-1ubuntu0.16.04.2) ...
Selecting previously unselected package libhogweed4:amd64.
Preparing to unpack .../libhogweed4_3.2-1ubuntu0.16.04.2_amd64.deb ...
Unpacking libhogweed4:amd64 (3.2-1ubuntu0.16.04.2) ...
Selecting previously unselected package libidn11:amd64.
Preparing to unpack .../libidn11_1.32-3ubuntu1.2_amd64.deb ...
Unpacking libidn11:amd64 (1.32-3ubuntu1.2) ...
Selecting previously unselected package libffi6:amd64.
Preparing to unpack .../libffi6_3.2.1-4_amd64.deb ...
Unpacking libffi6:amd64 (3.2.1-4) ...
Selecting previously unselected package libp11-kit0:amd64.
Preparing to unpack .../libp11-kit0_0.23.2-5~ubuntu16.04.2_amd64.deb ...
Unpacking libp11-kit0:amd64 (0.23.2-5~ubuntu16.04.2) ...
Selecting previously unselected package libtasn1-6:amd64.
Preparing to unpack .../libtasn1-6_4.7-3ubuntu0.16.04.3_amd64.deb ...
Unpacking libtasn1-6:amd64 (4.7-3ubuntu0.16.04.3) ...
```

```
root@e6f9fe630c68:/# ping google.com
PING google.com (142.250.204.110) 56(84) bytes of data:
64 bytes from 142.250.204.110: icmp_seq=1 ttl=37 time=31.0 ms
64 bytes from 142.250.204.110: icmp_seq=2 ttl=37 time=32.6 ms
64 bytes from 142.250.204.110: icmp_seq=3 ttl=37 time=57.7 ms
64 bytes from 142.250.204.110: icmp_seq=4 ttl=37 time=34.0 ms
64 bytes from 142.250.204.110: icmp_seq=5 ttl=37 time=31.0 ms
64 bytes from 142.250.204.110: icmp_seq=6 ttl=37 time=30.6 ms
64 bytes from 142.250.204.110: icmp_seq=7 ttl=37 time=30.9 ms
64 bytes from 142.250.204.110: icmp_seq=8 ttl=37 time=30.5 ms
64 bytes from 142.250.204.110: icmp_seq=9 ttl=37 time=31.9 ms
64 bytes from 142.250.204.110: icmp_seq=10 ttl=37 time=31.7 ms
64 bytes from 142.250.204.110: icmp_seq=11 ttl=37 time=31.9 ms
64 bytes from 142.250.204.110: icmp_seq=12 ttl=37 time=32.1 ms
64 bytes from 142.250.204.110: icmp_seq=13 ttl=37 time=32.2 ms
64 bytes from 142.250.204.110: icmp_seq=14 ttl=37 time=32.2 ms
64 bytes from 142.250.204.110: icmp_seq=15 ttl=37 time=31.7 ms
64 bytes from 142.250.204.110: icmp_seq=16 ttl=37 time=32.3 ms
64 bytes from 142.250.204.110: icmp_seq=17 ttl=37 time=32.1 ms
64 bytes from 142.250.204.110: icmp_seq=18 ttl=37 time=31.8 ms
64 bytes from 142.250.204.110: icmp_seq=19 ttl=37 time=33.0 ms
64 bytes from 142.250.204.110: icmp_seq=20 ttl=37 time=32.0 ms
^C
--- google.com ping statistics ---
20 packets transmitted, 20 received, 0% packet loss, time 19032ms
rtt min/avg/max/mdev = 30.546/33.215/57.782/5.696 ms
root@e6f9fe630c68:/# exit
exit
```

Committing changes

```
C:\Users\Eliezer Jasper\Documents\GitHub\ME8_Containerization_and_Docker\2-changing_images>docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED          STATUS          PORTS          NAMES
e6f9fe630c68   ubuntu:16.04   "/bin/bash"             4 minutes ago    Exited (0) 35 seconds ago              interesting_noether
```

```
C:\Users\Eliezer Jasper\Documents\GitHub\ME8_Containerization_and_Docker\2-changing_images>docker commit --help
```

```
Usage:  docker commit [OPTIONS] CONTAINER [REPOSITORY[:TAG]]
```

Create a new image from a container's changes

Options:

| | |
|----------------------|--|
| -a, --author string | Author (e.g., "John Hannibal Smith <hannibal@a-team.com>") |
| -c, --change list | Apply Dockerfile instruction to the created image |
| -m, --message string | Commit message |
| -p, --pause | Pause container during commit (default true) |

```
C:\Users\Eliezer Jasper\Documents\GitHub\ME8_Containerization_and_Docker\2-changing_images>docker commit -a "Eliezer Jasper" -m "Added ping utility." e6f eliezerjasper/ping
sha256:018cd2aaf3b3fe96d1cb2002e48db09b58aeefcfe7e9a58e6429c641d888dd79
```

```
C:\Users\Eliezer Jasper\Documents\GitHub\ME8_Containerization_and_Docker\2-changing_images>docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
eliezerjasper/ping   latest    018cd2aaf3b3   36 seconds ago  169MB
ubuntu         16.04     aefd7f02ae24   3 weeks ago    134MB
```

```
C:\Users\Eliezer Jasper\Documents\GitHub\ME8_Containerization_and_Docker\2-changing_images>docker run -it --rm eliezerjasper/ping /bin/bash
root@828f366a8acc:/# ping google.com
PING google.com (142.250.204.110) 56(84) bytes of data.
64 bytes from 142.250.204.110: icmp_seq=1 ttl=37 time=30.4 ms
64 bytes from 142.250.204.110: icmp_seq=2 ttl=37 time=31.4 ms
64 bytes from 142.250.204.110: icmp_seq=3 ttl=37 time=31.3 ms
64 bytes from 142.250.204.110: icmp_seq=4 ttl=37 time=31.9 ms
64 bytes from 142.250.204.110: icmp_seq=5 ttl=37 time=32.0 ms
^C
--- google.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4007ms
rtt min/avg/max/mdev = 30.420/31.438/32.018/0.609 ms
root@828f366a8acc:/# exit
exit
```